Claims

1. Moulding serving for pharmaceutical uses, such as a stopper (1) for pharmaceutical bottles, a protective cap (2) for medical syringes or a sealing element (38, 39) for pharmaceutical containers, the moulding (1, 2, 38, 39, 44) consisting, at least in a subregion, of a thermoplastic elastomer material with a mineral filler content of 30% or more and this subregion having a hot-runner injection point which is formed as a smooth-surfaced mark.

2. Moulding serving for pharmaceutical uses, such as a stopper (1) for pharmaceutical bottles, a protective cap (2) for medical syringes or a sealing element (38, 39) for pharmaceutical containers, the moulding (1, 2, 38, 39, 44) consisting, in a subregion, of a thermoplastic elastomer material with a mineral filler content of 30% or more and this subregion having an injection point, which is injected over by a second part of the moulding, consisting of another plastics.

3. Moulding according to Claim 2 or in particular according thereto, characterized in that the injection point of the subregion formed from the flexible elastomer material is formed as a hot-runner injection point.

4. Moulding according to Claim 3 or in particular according thereto, characterized in that the hot-runner injection point is formed as a smooth-surfaced mark.

5. Moulding according to Claim 1 or in particular according thereto, characterized in that the moulding altogether consists of the elastomer material.

6. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that the hot-runner injection point goes over into the surrounding moulding wall without being offset outwards.

7. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that a hot-runner injection point offset outwards with respect to the surrounding moulding wall is encapsulated by a plastics part.

8. Moulding according to one or more of the preceding claims or in particular according thereto, that the smooth-surfaced mark of the hot-runner injection point goes over into the moulding wall surrounding it in a co-planar manner.

9. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that the moulding is of a predominantly thick-walled form.

10. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that, in the case of the stopper (1), a stopper top (13) and a stopper collar (14) are formed and in that there is a central hot-runner injection (A) in the region of the stopper top (13).

11. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that, in the case of the stopper, the stopper top (13) has a central region (12) of smaller wall thickness (x) and an edge region (15) of greater wall thickness (y).

12. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that it takes the form of a protective cap (2) for medical syringes and in that the protective cap (2) has a hot-runner injection (A) in the region of the cap hat (18).

13. Moulding according to one of more of the preceding claims or in particular according thereto, characterized in that the thermoplastic elastomer material contains a proportion of plasticizers.

14. Moulding according to one or more of the preceding claims or in particular according thereto, characterized by being formed as a sealing element for a pharmaceutical bottle, a central hot-runner injection (A) being provided in an outer surface.

15. Moulding according to one or more of the preceding claims or in particular according thereto, characterized in that, in the case of a stopper, the stopper collar (14) has a greater wall thickness (z) than the stopper top (13) in its central region.

16. Protective cap (2) produced in the plastics injection-moulding process for medical syringes, with a solid cap hat (18) and a comparatively thin-walled cap neck (19), characterized in that the protective cap (2) consists of thermoplastic elastomer material with a mineral filler content of 30% or more and in that there is a hot-runner injection (A) in the region of the cap hat (18).

17. Protective cap according to Claim 16 or in particular according thereto, characterized in that the thermoplastic elastomer material contains a proportion of plasticizer.

18. Protective cap according to Claim 16 or 17 or in particular according thereto, characterized in that a central hot-runner injection (A) is performed in the region of the tip of the cap hat.

19. Method for producing a moulding for a pharmaceutical use, such as a stopper (1) for pharmaceutical bottles, a protective cap (2) for medical syringes or a sealing element (38, 39) for pharmaceutical containers, characterized in that the moulding is produced, at least in a subregion, from a thermoplastic elastomer material with a mineral filler content of 30% or more and this subregion is configured by a hot-runner injection, the injection point being formed as a smooth-surfaced mark.

20. Method for producing a moulding for a pharmaceutical use, such as a stopper (1) for pharmaceutical bottles, a protective cap (2) for medical syringes or a sealing element (38, 39) for pharmaceutical containers, characterized in that the moulding is produced, in a subregion, from a thermoplastic elastomer material with a mineral filler content of 30% or more and this subregion is configured by an injection having an injection point, which injection point is injected over with another plastics, forming a second subregion of the moulding.

21. Method according to Claim 20 or in particular according thereto, characterized in that the injection of the thermoplastic elastomer material is carried out by a hot-runner injection.

22. Method according to Claim 21 or in particular according thereto, characterized in that the injection point of the hot-runner injection is formed as a smooth-surfaced mark.

23. Method according to Claim 19 or in particular according thereto, characterized in that the moulding altogether consists of the elastomer material.

24. Method according to one or more of the preceding claims or in particular according thereto, characterized in that the hot-run injection point is produced such that it goes over into the surrounding moulding wall without any offset outwards.

25. Method according to one or more of the preceding claims or in particular according thereto, characterized in that the injection point is produced with an offset outwards with respect to the surrounding moulding wall.

26. Method for producing a stopper (1) for pharmaceutical bottles (3), such as for example infusion bottles, in the plastics injection-moulding process, with a stopper top (13) and a stopper collar (14), characterized in that a thermoplastic elastomer material with a 30% or more admixed mineral filler content is used and in that a central hot-runner injection (A) is performed in the region of the stopper top (13) of the stopper (1) of a predominantly thick-walled form.

27. Method according to Claim 26 or in particular according thereto, characterized in that the stopper collar (14) is formed with a greater wall thickness (z) than the stopper top (13) in its central region.

28. Method according to either of Claims 26 and 27 or in particular according thereto, characterized in that the stopper top (13) is formed with a central

region of lesser wall thickness (x) and an edge region (15) of greater wall thickness (y).

29. Method for producing a protective cap (2) for medical syringes in the plastics injection-moulding process, with a solid cap hat (18) and a comparatively thin-walled cap neck (19), characterized in that a thermoplastic elastomer material with a 30% or more admixed mineral filler content is used and in that a central hot-runner injection (A) is performed in the region of the cap hat (18).

30. Method according to Claim 29 or in particular according thereto, characterized in that the hot-runner injection (A) is performed centrally on the cap hat (18).

31. Method according to either of Claims 29 and 30 or in particular according thereto, characterized in that a proportion of plasticizer is added to the thermoplastic elastomer material.